



PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference XA2055	FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/GB2006/050114	International filing date (day/month/year) 17.05.2006	Priority date (day/month/year) 20.05.2005	
International Patent Classification (IPC) or national classification and IPC INV. H01Q1/00			
Applicant EADS Astrium Limited			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of <u>9</u> sheets, as follows:</p> <p style="margin-left: 40px;"><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 2007-02-21		Date of completion of this report 23.04.2007	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer Jäschke, Holger Telephone No. +49 89 2399-7139 	

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/GB2006/050114

Box No. I Basis of the report

1. With regard to the **language**, this report is based on
- ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3(a) and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4(a))
 - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1, 2, 4, 6, 7, 10, 11	as originally filed
3, 5, 8, 9	filed with the demand

Claims, Numbers

1-10	filed with the demand
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Drawings, Sheets

1-4	as originally filed
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- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☒ the claims, Nos. 11
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☒ the entire international application,
- ☐ claims Nos.

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 1-10 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed (*specify*).
- ☐ no international search report has been established for the said claims Nos.
- ☐ a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:
 - ☐ furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.
 - ☐ furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.
 - ☐ pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13ter.1(a) or (b) and 13ter.2.
- ☐ a meaningful opinion could not be formed without the tables related to the sequence listings; the applicant did not, within the prescribed time limit, furnish such tables in electronic form complying with the technical requirements provided for in Annex C-bis of the Administrative Instructions, and such tables were not available to the International Preliminary Examining Authority in a form and manner acceptable to it.
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in electronic form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.
- ☒ See separate sheet for further details

1. The following documents (D) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: EP1208394 A2 (US family member US6587263 B1 cited by the applicant)

D2: "3M Radiant Mirror Film VM2000F1A6 [Experimental]" (supplied by the applicant together with his PCT DEMAND under Article 31 PCT)

2. The application does not meet the requirements of Article 6 PCT, because claim 1 is completely and utterly unclear.

- 2.1 The application is completely based upon the disclosure of D1. The European Patent Application D1 has been withdrawn for the following reasoning:

The application *"is not clear as it contains no technical teaching about the materials suitable for the different layers. To carry out the invention a skilled person needs to become himself inventive to derive a choice of materials suitable. Therefore"* the claims *"are considered cumbersome and speculative"*.

- 2.2 As current claim 1 does neither contain any technical teaching about the materials suitable for the different layers nor about a specific layer structure, Paragraph 2.1 applies mutatis mutandis. In the application reference is made to the material "3M Radiant Mirror Film VM2002". However starting from this Material, which according to the applicant appears to have material properties as cited in D1, the skilled person would necessarily need inventive skills in order to adapt this material for the wavelength ranges and purposes of claim 1.

- 2.3 Furthermore, Paragraph 2.2 notwithstanding, the subject matter for which protection is sought is not defined. The claims attempt to define the subject-matter in terms of the result to be achieved as *"high absorbency and emissive characteristics in the far infrared wavelength range 2,5µm to 50µm"*; *"low absorbency characteristics in the solar spectrum range 200-2500nm"* and *"high transmissive characteristics in the microwave frequency spectrum 1 to 30GHz"*, which merely amounts to a statement of the underlying problem, without providing the technical features necessary for achieving this result.

- 2.4 It is further not disclosed in the application, how it is possible to achieve up to a wavelength of 2,5µm (2500nm) a low absorbency and from a wavelength of 2,5µm a high absorbency. Such abrupt changes appear not to be possible in nature as this

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(SEPARATE SHEET)**

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change from low to high absorbency occurs at a point and not within a given interval. Moreover in this point of view the terms "low absorbency" and "high absorbency" seem to be not properly defined.

3. As the whole application fails to give clarification of points 2.2, 2.3 and 2.4 above, the application does not fulfil the requirements of Article 5 PCT.